



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,012	07/11/2003	Noboru Toyozawa	075834.00414	4396

33448 7590 11/15/2006

ROBERT J. DEPKE  
LEWIS T. STEADMAN  
ROCKEY, DEPKE, LYONS AND KITZINGER, LLC  
SUITE 5450 SEARS TOWER  
CHICAGO, IL 60606-6306

EXAMINER
----------

HOLTON, STEVEN E

ART UNIT	PAPER NUMBER
----------	--------------

2629

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/618,012	Applicant(s) TOYOZAWA ET AL.	
	Examiner Steven E. Holton	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4-6, 8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 8 is/are allowed.
- 6) ☒ Claim(s) 5 and 10 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2629

### DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 1/18/2006. Claims 4-6, 8, and 10 are currently pending in the application. An action follows below:

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagisawa et al. (USPN: 6621489), hereinafter Yanagisawa, in view of Yasui.

Regarding claims 5 and 10, Yanagisawa discloses a liquid crystal display device with "a pixel section (Fig. 6, element 31, col. 2, lines 1-26) having pixels arranged in a matrix which include active elements (Fig. 6, element 44, col. 2, lines 27-41), and signal lines connected to columns of pixels (Fig. 6, element 43, called data lines, but act as signal lines, col. 2, lines 27-41)... in the power-off state, white level signals or black level signals are written in all the pixels while the pixels in said pixel section are first selected in a sequential manner in units of rows (col. 7, lines 17-42)". The Examiner notes that writing by rows is discussed by Yanagisawa in col. 2, lines 27-30 and that the technique is well-known in the art. However, Yanagisawa does not disclose a "second

Art Unit: 2629

power-off mode, in the power-off state, the active elements for all the pixels in said pixel section are switched on and all the signal lines are set to each have a potential equal to the potential of common electrodes of the pixels.”

Yasui discloses a power-off mode where all the active elements for all the pixels are switched on (col. 1, line 61- col. 2, line 20) and all the signal lines are set to each have a potential equal to the potential of the common electrodes of the pixels (col. 3, lines 58-67).

At the time of invention it would have been obvious to one skilled in the art to combine the different power-off states of Yanagisawa and Yasui to provide different power-off states. The motivation for utilizing both power-off states would be to provide the clear screen power off provided by Yanagisawa “to provide an LCD display unit that does not produce irregular after-images on the LCD display when the power supply thereof is shut off (col. 3, lines 57-63)” and as provided by Yasui to provide a method that “permits clearing of a display on a liquid crystal display panel in a markedly shorter time than in the past (col. 2, lines 60-62)” and to prevent “shortening of liquid crystal life and lowering of its reliability (col. 2, lines 67-68)”. The Examiner notes that using a system with both types of power-off states would require some way of selecting which power-off state to use and therefore a selecting means to choose a first or second power-off mode and use the method of Yanagisawa or Yasui would be inherent within the device.

***Allowable Subject Matter***

3. Claims 4 and 8 are allowed.
4. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The invention is drawn to a liquid crystal display device with two methods of removing charge from pixels when power is turned off. The two methods of removing power from the display are operating a power-off switch or removing a battery power supply. Depending on the method of power supply removal a different method of power off operation is used.

Claims 6 and 8 identify a display device and method of operation using two methods of removing power from the display. The claims identify the unique feature of associating the different methods of removing charge from pixels in a display based on different methods of removing power from the display, the methods of using power associated with the operation of a power-off button and the removal of a battery power supply. The closest prior art Yasui and Yanagisawa disclose two methods of removing charge from liquid crystal display devices, but alone or in combination, fail to anticipate or render obvious the underlined limitations.

Claim 4 discloses with a control means capable of operating a display device with different methods of removing charge from pixels of the display utilizing two power

Art Unit: 2629

off states. The claim identifies the unique feature of combining a control circuit able to provide a method of removing charge from pixels in the display with a precharge scanning circuit able to provide precharge signals to pixels during normal operation of the display. The closest prior art, Yasui, Yanagisawa, and Everitt (USPN: 6954606) discloses methods of removing charge from pixels in a display and a pre-charge driving circuit, but singly or in combination fail to render the underlined limitations obvious.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven E. Holton  
Division 2629  
November 9, 2006

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER

